

Clean Version of the Amended and New Claims

1. A modem comprising at least one physical channel for transmitting data from a source to a receiver, said physical channel having a first logical channel and a second logical channel, wherein:

said first logical channel is configured to transmit only command information from the source to the modem for controlling the modem, said first logical channel being defined by a

command type in said command information; and

said second logical channel is configured to transmit data information from the source to the receiver through the modem, said second logical channel being defined by a data type in said data information.

4. A communication method for use by a modem, said method comprising the steps of:

receiving data information via a first logical channel, said first logical channel being defined by a data type in said data information;

receiving command information via a second logical channel, said second logical channel being defined by a command type in said command information, wherein said first and second logical channels are a part of a single physical channel;

transferring said data information received via said first logical channel to a receiver;

reading said command information received via said second logical channel; and

executing said command information.

5. A communication device capable of communicating information with a host via a host interface, said information including command information and data information, said device comprising:

a controller in communication with said host interface for receiving said information from said host;

a physical channel interface including a data pump; and

a physical channel in communication with said controller and said physical channel interface, said physical channel including a logical command channel and a logical data channel;

wherein said controller provides said command information to said physical channel interface via said logical command channel and provides said data information to said physical channel interface via said logical data channel, and wherein said command information includes a command type defining said logical command channel, and said data information includes a data type defining said logical data channel.

23. The device of claim 21, wherein said mailbox comprises:

a receive register; and

a transmit register;

wherein said controller writes first data to said receive register and reads second data from transmit register, and wherein said host writes said second data to said transmit register and reads said first data from receive register.

24. A communication device capable of communicating information with a host via a host interface, said information including command information and data information, said device comprising:

a controller in communication with said host interface for receiving said information from said host;

a plurality of physical channel interfaces, each of said plurality of physical channel interfaces including a data pump; and

a plurality of physical channels, wherein said controller is in communication with each of said physical channel interfaces via at least one of said plurality of physical channels, and wherein at least one of said plurality of physical channels includes a logical command channel and a logical data channel;

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wherein said controller provides said command information to said at least one of said plurality of physical channel interfaces via said logical command channel and provides said data information to said at least one of said plurality of physical channel interfaces via said logical data channel, and wherein said command information includes a command type defining said logical command channel, and said data information includes a data type defining said logical data channel.

34. The device of claim 32, wherein said mailbox comprises:
a receive register; and
a transmit register;
wherein said controller writes first data to said receive register and reads second data from transmit register, and wherein said host writes said second data to said transmit register and reads said first data from receive register.

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A method of communicating information between a communication device and a host via a host interface, said device including a controller in communication with said host interface and a physical channel, wherein said physical channel is in communication with a physical channel interface having a data pump, and said information including command information and data information, said method comprising:

defining a logical command channel in said physical channel based on a command type;
defining a logical data channel in said physical channel based on a data type;
providing said command information, including said command type, to said physical channel interface via said logical command channel; and
providing said data information, including said data type, to said physical channel interface via said logical data channel.

45. The method of claim 43, wherein said distinguishing is performed using a mailbox, said mailbox comprises:

a receive register; and

a transmit register;

wherein said controller writes first data to said receive register and reads second data from transmit register, and wherein said host writes said second data to said transmit register and reads said first data from receive register.

53. The device of claim 20, wherein said physical channel further includes a logical message channel and said information further includes a message information, said controller provides said message information to said physical channel interface via said logical message channel, and wherein said message information includes a message type defining said logical message channel.

Marked-Up Version of the Amended and New Claims

1. (Twice Amended) A modem comprising at least one physical channel for transmitting data from a source to a receiver, said physical channel having a first logical channel and a second logical channel, wherein:

said first logical channel is configured to transmit only command information from the source to the modem for controlling the modem, said first logical channel being defined by a command type in said command information; and

said second logical channel is configured to transmit data information from the source to the receiver through the modem, said second logical channel being defined by a data type in said data information.

4. (Twice Amended) A communication method for use by a modem, said method comprising the steps of:

receiving ~~message~~ data information via a first logical channel, said first logical channel being defined by a data type in said data information;

receiving command information via a second logical channel, said second logical channel being defined by a command type in said command information, wherein said first and second logical channels are a part of a single physical channel;

transferring said ~~message~~ data information received via said first logical channel to a receiver;

reading said command information received via said second logical channel; and
executing said command information.

20. (Amended) A communication device capable of communicating information with a host via a host interface, said information including command information and data information, said device comprising:

a controller in communication with said host interface for receiving said information from

said host;

a physical channel interface including a data pump; and

a physical channel in communication with said controller and said physical channel interface, said physical channel including a logical command channel and a logical data channel;

wherein said controller provides said command information to said physical channel interface via said logical command channel and provides said data information to said physical channel interface via said logical data channel, and wherein said command information includes a command type defining said logical command channel, and said data information includes a data type defining said logical data channel.

24. (Amended) The device of claim 21, wherein said mailbox comprises:

a ~~of~~ receive register; and

a ~~of~~ transmit register;

wherein said controller writes first data to said receive register and reads second data from transmit register, and wherein said host writes said second data to said transmit register and reads said first data from receive register.

31. (Amended) A communication device capable of communicating information with a host via a host interface, said information including command information and data information, said device comprising:

a controller in communication with said host interface for receiving said information from said host;

a plurality of physical channel interfaces, each of said plurality of physical channel interfaces including a data pump; and

a plurality of physical channels, wherein said controller is in communication with each of said physical channel interfaces via at least one of said plurality of physical channels, and wherein at least one of said plurality of physical channels includes a logical command channel

and a logical data channel;

wherein said controller provides said command information to said at least one of said plurality of physical channel interfaces via said logical command channel and provides said data information to said at least one of said plurality of physical channel interfaces via said logical data channel, and wherein said command information includes a command type defining said logical command channel, and said data information includes a data type defining said logical data channel.

34. (Amended) The device of claim 32, wherein said mailbox comprises:

a ~~of~~ receive register; and

a ~~of~~ transmit register;

wherein said controller writes first data to said receive register and reads second data from transmit register, and wherein said host writes said second data to said transmit register and reads said first data from receive register.

42. (Amended) A method of communicating information between a communication device and a host via a host interface, said device including a controller in communication with said host interface and a physical channel, wherein said physical channel is in communication with a physical channel interface having a data pump, and said information including command information and data information, said method comprising:

defining a logical command channel in said physical channel based on a command type;

defining a logical data channel in said physical channel based on a data type;

providing said command information, including said command type, to said physical channel interface via said logical command channel; and

providing said data information, including said data type, to said physical channel interface via said logical data channel.

45. (Amended) The method of claim 43, wherein said distinguishing is performed using a mailbox, said mailbox comprises:

a ~~of~~ receive register; and

a ~~of~~ transmit register;

wherein said controller writes first data to said receive register and reads second data from transmit register, and wherein said host writes said second data to said transmit register and reads said first data from receive register.

53. (New) The device of claim 20, wherein said physical channel further includes a logical message channel and said information further includes a message information, said controller provides said message information to said physical channel interface via said logical message channel, and wherein said message information includes a message type defining said logical message channel.